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THE New York Senate appears to have left the Capitol Commissioners in possession of the field. The Finance Committee had put into the supply bill provisions appropriating a million of dollars for the construction of the Capitol during the year; but requiring that Mr. Fuller's design should be carried out to the roof-line without modification, and also that the Speaker should add a new member to the Board of Commissioners. On the consideration of the bill by the Senate, the appropriation was reduced to half a million; and the provisions for carrying out the original design, and the appointment of an additional commissioner, were struck out. In the course of the debate, Senator Starbuck made a strong effort to have the present system of carrying on the work given up, and the completion of the building provided for by a general contract; proposing that, instead of making an appropriation for the continuation of the work, thirty thousand dollars should be appropriated to the completion of plans and drawings (presumably specifications also), and the procuring of estimates from contractors. He supported his proposition by urging that undue prices had been paid for much of the material used, and the building had been unreasonably costly thus far. Senator Harris resisted the proposal for contracts, and argued that there was no building in the country which had cost so little. Be this as it may, a rough computation shows that up to the present point the Capitol has cost about seventy-three dollars per superficial foot; and that, if it is completed according to the architect's present estimates, it will cost about one hundred and twenty-five dollars per foot. Was it possibly on the cost of public buildings built in this way, that Mr. Fogerty based his erroneous deduction that it cost five times as much to build in the United States as in England?

FINALLY, the Finance Committee having asked leave to consider the bill again, it was once more reported with an appropriation of half a million dollars, and the following clause: "The Commissioners of the new Capitol are hereby directed to report to the Legislature, at the opening of its next session, full detailed plans and specifications for the completion of the whole work by contract. They are also required to secure by advertisement estimates of bids for the construction of the work from responsible parties, which estimates or bids shall be accompanied by such sureties as the said Commissioners shall deem to be necessary in order to guarantee the faithful performance of any contract or contracts that may be made. All such estimates or bids shall also be embraced in the report to be made to the Legislature as above required." An amendment was added, increasing the appropriation to eight hundred thousand dollars; and, with this provision, the bill passed the Senate, leaving the Commission, as before, with authority to change the design.

THE men of Cincinnati show a refreshing rivalry in efforts to make their city beautiful. Mr. David Sinton has undertaken to furnish the city with an *agora* or *forum*, or, as it is called in the papers, esplanade, which will be used, we may guess, for outdoor meetings, speech-making, open-air music, and the like. The open square in front of the new City Government Building, and east of the Probasco Fountain, or a part of it, is to be taken, its surface raised a little above the enclosing streets, surrounded by a stone curb and continuous step, and paved with diagonal slabs of freestone. This pavement, forty-eight by three hundred and sixty feet, will be divided by transverse bands into seven panels, or bays, of about fifty feet, each of which will be ornamented with a tessellated centre in geometric design, and marked at the corners by posts set in the curb, and at the sides by lamp-posts set in range at the centres of the dividing bands. The design of the work is by Messrs. Hannaford and Proctor. The central panel of the pavement is to be occupied by a rostrum designed by Mr. McLaughlin, about thirty by sixty feet, with semicircular ends. It will consist of a platform two feet high, surrounded by four continuous steps; and upon this a second platform of twenty-five feet square, and five and a half feet above the pavement, with a semicircular projection at each end for the use of speakers, flanked by double flights of steps. The upper platform, built of blue granite, and girt by a balustrade of polished red Scotch granite, will be lighted by bronze candelabra, and emphasized at the corners by pedestals bearing bronze griffins. In the middle is to be a group of bronze sculpture, some forty-five feet high, of which it is proposed that the central figure shall be a statue of Cincinnatus. The idea is novel and interesting; though it occurs to us, that for practical use it would be an advantage if the shape of the ground were less oblong, so that the people could be massed more uniformly within hearing distance of the rostrum. What might be the consequence when exciting speakers of opposite politics should occupy simultaneously the two ends of the rostrum, we forbear to guess.

THE BUILDER states that the Indian Government is arranging for a complete archæological survey of India, under charge of Gen. Cunningham, who has sent a circular to the different local governments, requesting them to give an account of the character, age, material, and history of whatever old buildings or other antiquities are to be found within their jurisdictions. A scheme is laid out, by which the whole country is divided into fifteen districts, grouped into five nearly equal provinces, each district being assigned as a year's work to one examining party. A careful study is to be made of each building, with plans, sections, and details, when possible. The Madras Government has called special attention to the ruins of the city of Nijianager, which cover some nine square miles, and include several fine temples, stables for elephants, an arena for wild-beast combats, the remains of a *zenana* (or harem), and some large monolithic statues, one thirty-five feet high. Near the arena is a trough hewn from one stone forty-one feet long; and in one of the temples a sculpture of an elephant and car, thirty feet high. An order has been issued to prevent the destruction of old monuments, a somewhat difficult order to enforce. The two thousand years of Hindoo architecture, before the Mohammedan invasion, are divided into five periods: the first marked by mounds, cromlechs, monolithic monuments, and stone or bronze implements, and extending to 250 B.C., or till after the Greek invasions; the second, or Indo-Grecian, of two hundred years, which is notable for rock inscriptions; the third, or Indo-Scythian, from which date the Buddhist cave-monasteries, or temples;

the Indo-Sassanian period, the fourth, lasting to A.D. 700, with Buddhist structural temples; and the mediæval Brahminic, extending to the Moslem dominion. This subject suggests the query, When shall we see Mr. Fergusson's new volume on Indian architecture, the third and latest of the new edition of his History of Architecture, the publication of which was expected last fall?

The New York Commercial Advertiser describes a scheme for the improvement of the Capitol of Venezuela, which seems to outdo any thing that has been undertaken by the authorities in any of our cities of the Northern Republic. Caracas, the capital, a city of over fifty thousand inhabitants, has never fairly recovered from the great earthquake of 1812, which nearly destroyed it, and cost it twelve thousand of its inhabitants. Venezuela is said to have grown greatly in wealth of late years; and the president, Blanco, a man of great influence and of Pericleian tendency, has taken much pains during the last five years to adorn the city with public buildings. Now, it appears, a project is started to rebuild the residences of the city under the auspices of one Dr. Domingus; and Col. Andrew J. Derrom of New Jersey, known as an ingenious constructor, has been engaged as supervising architect, and director of the work. It is proposed to build as many as five hundred houses, which are to be solid and fireproof, with the best workmanship and modern appliances. A good deal of the material is to be shipped, ready wrought, from the United States; and workmen also are to be imported. It is to be earnestly hoped that the architect will respect the local traditions of the country, and not import too much modern American architecture. It is our impression, from what we have been able to see, that, notwithstanding a certain rude and *rococo* character, the most dignified and impressive architecture on this side the Atlantic is to be found in the cities of South America and Mexico. Caracas is said to have been finely built, after the South American manner, and contains a cathedral and some other churches of note. To see a crop of French roofs introduced there would be pitiable.

The last double number of the *Revue Générale de l'Architecture* for 1875 reaches us rather late. It contains an illustration of the somewhat striking monument to Gens. Lecomte and Thomas, who were executed or assassinated by the Commune, with a long notice of it by the editor, M. César Daly; the last of a series of articles, interesting to specialists, on the stage machinery of theatres; notes of competitions, including that for the *Grand Prix de Rome;* and a notice, also by the editor, and illustrated, of a villa at Croissy designed by M. Duc, the architect of the *Palais de Justice*, to whom we have lately had occasion to refer. The subject of the Grand Prize this year was a *Palais de Justice* for the city of Paris, the designs for which were required to provide accommodation for the three courts, with their necessary attendent chambers. The drawings required were four, — one plan, one elevation, one section, and one sheet of details. The competitors this year were ten, of whom M. Paulin, pupil of MM. Vaudoyer and Ginain, won the *Prix de Rome;* and second prizes were given to MM. Bréasson and Blondel. The Grand Prize, as is well known, secures for the winner a two-years' residence, at the expense of the state, in the French Government's school of art at the Villa Medici in Rome, and two years of travel, on condition of sending home to the Académie des Beaux Arts drawings or restorations of some important "monument." Recently a French lady, Mme. Chaudesaigues, who died in 1868, widow of a former *lauréat*, has established by her will a prize of two thousand francs to be awarded by the Académie des Beaux Arts in competition, and carrying with it the obligation of a two-years' residence for professional study in Italy. The prize, awarded this year for the first time, was won by M. Benouville, pupil of M. André, and son of a well-known painter. We are not sure whether the travelling ground of the *lauréats* is fixed for them by the authorities of the Academy, or not; but the tendency of the school is shown by the fact that it is always classic ground, and that there never is any thing but classic architecture to be found among the *envois*, as they are called, — the drawings which the students send home.

Nevertheless there is still some call among Frenchmen for the study of mediæval architecture. A competition has lately been advertised for designs for a cathedral in the city of Saïgon, in Cochin China, a town of nearly two hundred thousand inhabitants, acquired by the French in 1860. It is to have a nave and aisles, with or without transepts, a choir and ambulatory, chapels, a crypt, and two sacristies. It is to provide some fifteen hundred square metres, say fifteen thousand square feet, of available space, besides the chapels and sacristies, of which space about two hundred and fifty metres are to be reserved for the choir; and to have one or two towers or domes, with provision for a peal of bells. The style was left to the competitors; but it was made known that Gothic or Romanesque would be preferred to Renaissance. Two premiums, one of eight thousand francs, and one of four thousand, were promised (amounting to one and a half per cent of the intended cost, eight hundred thousand francs), but with the understanding that the accepted design should be carried out by whatsoever architect the government of the colony should select.

The time allowed for sending in designs — from the latter part of 1875 to July, 1876 — looks liberal enough; but in point of fact, we believe, owing to the length of the journey, the interval between the publication of competition in Paris and the required sending of the drawings in order that they should be received by the time specified, was so short that the competition went begging.

VIOLLET-LE-DUC'S HABITATIONS.[1]

Considerable extracts from advance sheets of M. Viollet-le-Duc's Habitations of Man have already been given in our columns; and now we have the whole volume, issued at once by the English and American publishers, electrotypes of the original English plates, both for text and illustrations, having been imported by the American house. The illustrations, as in all M. Viollet-le-Duc's works, are from drawings by his own hand, and have his characteristic facility, expressiveness, and artistic charm. Even the little heads which serve as tail-pieces to the chapters, and represent, as a sort of commentary, the types of various races whose dwellings are described in the text, are by the same hand, and ingeniously developed from the characteristic representations of monuments. One drawing only, the Clunisian house, p. 345, has neither the *cachet* of the author's peculiar handling nor his familiar monogram. Mr. Bucknall's translation is done in the same facile, neat, lively, and apparently accurate manner as his preceding ones. We have had no opportunity to compare it with the original.

The book, as its name implies, is an account of the dwellings of the principal races of men at the chief epochs of which History gives any knowledge, including some periods concerning which her testimony is of the meagrest. Two characters who appear and re-appear in every scene of the book, and give a running commentary on all that they witness, serve, like the scene itself in the Annals of a Fortress, for the bond which maintains connection between the different parts of the book, and gives it a certain degree of unity.

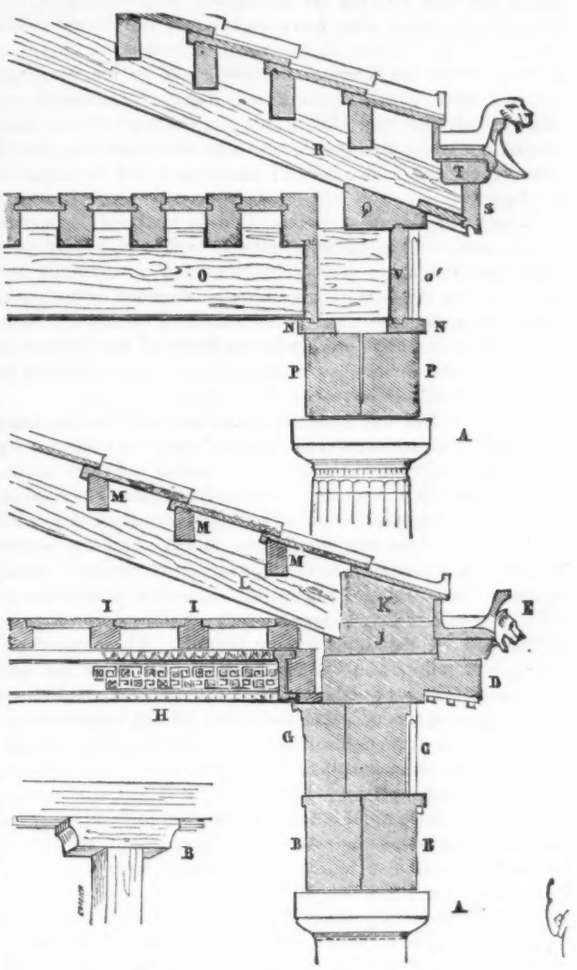
[1] The Habitations of Man in all Ages, by Eugène Viollet-le-Duc. Translated by Benjamin Bucknall, architect, with numerous illustrations. Boston: James R. Osgood & Co., 1876.

These two immortal beings are called Doxius and Epergos, names which appear intended to suggest etymologically tradition, and invention or active-mindedness. Doxius always regretting the past, and abhorring every attempt to change the established order of things; Epergos rejoicing in improvement, and looking forward continually to new development, — they typify two leading tendencies which influence human condition everywhere and at all times. In their constant companionship and almost constant disagreement, and by their conversation, they illustrate the development, the connections, and deviations of various forms of building, and the conflicting forces which influence them.

The book opens in a mountain region, which we may assume to be the neighborhood of the Himalayas, where the first men make their first shelter in rude huts. The early Aryans, or Aryas as they are called in the book, make their appearance, naturally, as the progressive race, and re-appear from time to time with hints and suggestions of the emigrations which they have meanwhile undergone. Their very first enterprises disgust Doxius to that degree that he exclaims, "I think that these Aryas, as they call themselves, will destroy the Creator's work. They were not wanted on the earth." The Chinese, the Egyptians, the Assyrians, the Pelasgi, the Ionians, the Hellenic Greeks, the Romans, the Syrians, the Buddhists, the Cathayans, the Nahuans, Scandinavians, mediæval Europeans, and the people of the Renaissance time, are successively brought on the stage, and their habitations and way of building described with a minuteness which leaves nothing to be desired in the way of definiteness and precision. The relationships among the different styles of building, and their development out of each other, are not very formally insisted on; but are rather suggested by the succession of descriptions, and by the reminiscences which they call out in the two immortal travellers. In fact, it would hardly have been practicable, even if the author had chosen to make his book a systematic treatise, to trace the connection of styles within the limits of domestic architecture, since many of the most important connecting links are found only in the more monumental buildings, and could not, even by M. Viollet-le-Duc's ingenuity, be foisted into domestic building. But an allusion from the well-stored memory of Epergos, or occasionally a more formal comparison of one type of building with another, is enough to keep the reader's attention alive to the connections and developments which the writer wishes to bring before him.

We can hardly judge whether it is for this reason that the connection between Greek and Egyptian architecture is entirely ignored in the book before us. The Egyptian prototypes of the Doric order, it is true, are not found in the domestic buildings which M. Viollet-le-Duc describes. This order is the only one which he introduces in the Athenian house of which he gives an account in his chapter on the Hellenes. The theory of the stone origin of the Doric order, which he gives in his Discourse, he repeats in the Habitations, partially undermining it, however, by an alternative diagram, in which he shows that the order was really as well adapted, the column excepted, for wooden as for stone construction. The drawing by which he illustrates this position is interesting enough to be introduced here, especially as it is a sort a commentary on a discussion which has lately appeared in our paper. It may be noted that the wooden construction was appropriate only to the order on quite a small scale, and that it had been carried a long way from this starting-point before it reached the dimensions of the Greek temple, in which, as we have before suggested, it would be impossible to imagine the triglyphs, four or five feet high, to be the ends of beams.

Between the Doric and the Ionic orders, however, M. Viollet-le-Duc draws a sharp line, assigning to the latter unequivocally a wooden origin. He introduces the Ionic order only in its primitive wooden form, — in fact, in the house of one of the Ionian colonists of Asia Minor, — and indicates its direct development from the two-sided bracket-capitals and scrolls of India, Assyria, and Persepolis.



The reasons for the rejection of the arch among the Greeks, which he puts into the mouth of his Athenian architect Eikos, are worth quoting: —

"There are two principal reasons why they do not: the first, that the Greeks do not like to adopt the methods of barbarians; or, if they do adopt them, it is with very considerable modifications. The second is, that Greek artisans make a point of doing honor to their labor, and that vaultings require a coarse kind of toil which is not to their taste. Whether they are built of brick or of stone, recourse must be had to a great combination of appliances, and a multitude of workmen; thick walls must be built, the vaults must be turned, and the haunches filled in. Now, thou must observe that we do not use lime or mortar in our masonry, as is the custom in Media and in Egypt, but only to make plastering; and vaults cannot be built without mortar. We might certainly compel slaves to perform this work, which requires more sweat than intelligence; but we are averse to doing so. Our workmen are organized in jealous corporations, who do not like to see barbarians engaged in works which they take a pride in accomplishing themselves. Thus slaves are employed only for carting, for work requiring brute force, or for bringing materials to the ground. Our carpenters and stone-cutters, our sculptors and painters, are free men, endowed moreover with an excessive amount of *amour-propre:* they desire that their labor should be appreciated; and I have often seen common workmen take their friends along a building newly finished, to show them the stones they had cut, or the timbers they had framed."

Certain it is that the disdain for the arch, which survived till the late days of the Roman empire, and which is re-

tained in India to this day, was inherited from a very venerable antiquity; since even the Egyptians relegated the arch with persistent rigor to inferior and obscure uses. Later on, the writer makes Epergos, in discussing the Roman use of the arch with the order, exclaim prophetically of the Byzantine Greeks, who, however, are not introduced in the book, "If the Greeks should some day come to impose a style of art on the Romans, as they could no longer adopt the architrave, which allows of only small constructions, we should find, that considering the logical tendency of their minds, not being able to dispense with the vault, they would abandon the lintel once for all; and they would be right in so doing."

It is noticeable that no mention is made of Pompeian architecture. This, however, may be said to be superfluous, since the Pompeian houses have evidently furnished the models of the Athenian house which is described in the book. The Roman residences are represented by a somewhat elaborate villa; and a street-view in the Rome of the Cæsars is given, which it would cost a traveller but little surprise to see in the reality in any old Italian town at our day.

The book has the same freshness and vivacity, the same ingenuity of reasoning and clearness of idea, the same felicity of expression, that characterize the author's former works. It is a book full of erudition, — of archæology re-enforced by bits of ethnology and even of philology, of acute historical analysis, ingenious conjecture, and fancy. But the author has not taken the pains to distinguish for his readers' benefit between his history or archæology, and his conjecture or fancy. To disentangle them securely, would require a reader as learned as M. Viollet-le-Duc himself. The professional reader will follow him with satisfaction as far as his own studies furnish a commentary, and will find the suggestions full of interest beyond this limit; but he will receive warily any thing that outsteps his own means of verification. The untaught reader must accept all with equal faith or equal incredulity, as his temper may dictate. It is difficult, of course, for a writer whose mind is taken possession of by his subject, and whose opinions and statements are deductions from a thousand facts, and indications gathered from a hundred sources, to refer, in a compendious treatise, each of his facts or conclusions to its proper origin. Yet it must be said, that, even in his more elaborate and serious works, M. Viollet-le-Duc is too apt to neglect giving his authorities. There are many examples of this in the Discourses; and in his famous dictionary, even, there are often cases where we are left in doubt whether some drawing represents a thing which really exists, or only a type deduced and combined by the author. In the Habitations, the vivacity of M. Viollet-le-Duc's imagination leaves nothing unsupplied. The system of proportions on which the design of the Egyptian palace is designed, for instance, must be altogether empirical with him. The interior of his Ionian house is probably in the main conjectural: on the outside of it he has placed the frontispiece of one of the Lycian tombs given by Texier, cleverly translated back into a wooden window-frame, from which it doubtless started; but under it is a wooden latticed blind, which appears as equally authentic, and yet must be pure guesswork. The Athenian *impluvium* is adorned with a little fountain — "a detail," to be sure — which could hardly have been designed out of reach of modern Paris. The upper half of the great window of the Roman Triclinium, segment-arched, is filled with stained glass, apparently in a leaden sash. The street in classic Rome might, as we have intimated, have been only a couple of centuries old. One would not be too critical of a work written in so untechnical a vein: still it may be questioned, whether it is well to leave the unlearned reader so much without caution.

Since 1840, $121,000,000 have been expended in England alone in building and restoring church edifices.

CONSTRUCTIVE ART IN JAPAN.

From a paper read by Mr. R. H. Brunton before the Asiatic Society of Japan, we condense the following: —

"In the minds of the modern Japanese there seems to be the same desire for the adoption of a dwelling constructed after a European mode, as for the adoption of European clothes. They argue, with a show of reason, that the one is as necessary as the other. Europeanized dwellings are therefore now common. The style of building most generally adopted throughout the country, in these new houses, is a bad copy of the houses to be found in the European settlements. They display novel points in the practice of house-building, which are worth mentioning on that account only. The foundations consist of a stone wall generally about eight inches thick and two feet high. On this wall is laid a wooden sole plate which is about six inches square, and into which the wooden uprights forming the walls of the house are mortised. The uprights are also about six inches square, and placed from two to three feet apart, so that, when they are still uncovered, they appear like a forest of posts. There are very thin laths placed longitudinally along the uprights at distances of six feet or so apart, which are secured to them by wooden pins. Diagonal struts or ties are very seldom used; and the stability of the building is therefore dependent on the stiffness of the different joints in the framework, assisted by the nails used in the different parts of the erection. The roof is formed of timbers very much larger than is required for strength, and is laid with mud and tiles. Inside, the houses are generally lined with planks about three-eighths of an inch thick, on which wall-paper is placed, the ceilings of the rooms being executed in the same way. In some of the better class of houses, however, the walls and ceilings are lathed and plastered. Outside the walls there are sometimes fixed laths to which square tiles are nailed, the joints of the tiles being pointed with plaster; sometimes the walls are plastered without any tiles; and in those houses which are intended to be of the best description, thin stone flags, of a thickness of about four to eight inches, are built on one another, and kept in their places by small iron dogs attached to the woodwork. In some of the houses, iron stovepipes are let through the walls, surrounded by a stone; but the more pretentious have fireplaces and chimneys, erected with stone, in their interiors. These are generally about five or six feet square at the base, are generally badly built; and, as they project through the roofs, they must be in some cases thirty or forty feet high. They can only be kept upright by the floor or roof beams which project against them, and are a constant source of dread and danger."

Even at the present day, few houses in the foreign settlements are built more securely or more substantially than this. Foreigners may be excused for having adopted this method of construction on their arrival in Japan, because it was necessary to adapt their construction to that which the natives were in the habit of employing; besides, this method only required the cheapest and most easily procured materials, and hence was suitable for temporary structures. They supposed that this method of construction possessed a third quality, viz., that it was, perhaps, better adapted to withstand earthquake-shocks than any other method then devised; for the structure is very elastic, and the wooden framework prevents the outside lining of stone or other covering from being precipitated inwards whenever a shock takes place. Whether this is so or not, the system is very uneconomical. The fragile materials which compose the outside casing, whether stone-flags, tiles, or merely plaster, are in constant need of repair, and are never water nor air-tight: hence the wooden framework within decays with great rapidity, and is far from being safe and strong. It is a mistake that this system should have been employed upon buildings which have such pretension to architectural design, and upon which large sums of money have been expended, as the new Custom House and the new Town Hall in Yokohama, and the new Government Offices in Yeddo.

Since the great fire which happened at Yeddo in 1872, attention has been turned to seeking for a method of construction which shall resist the spreading of a similar conflagration. Small houses of brick, coated outside with Portland cement, have been erected upon the new boulevard: though far from fire-proof, they are an immense advance upon the light wooden buildings which are common in most Japanese towns. These building have evidently been designed so as to retain as far as possible the Japanese characteristics of house-building, with its open front and movable partitions; they are two storied, and have a small veranda in front supported upon brick columns.

Wood, which is the principal and most commonly used building-material, is of a most treacherous character as one finds it in the

The New York St

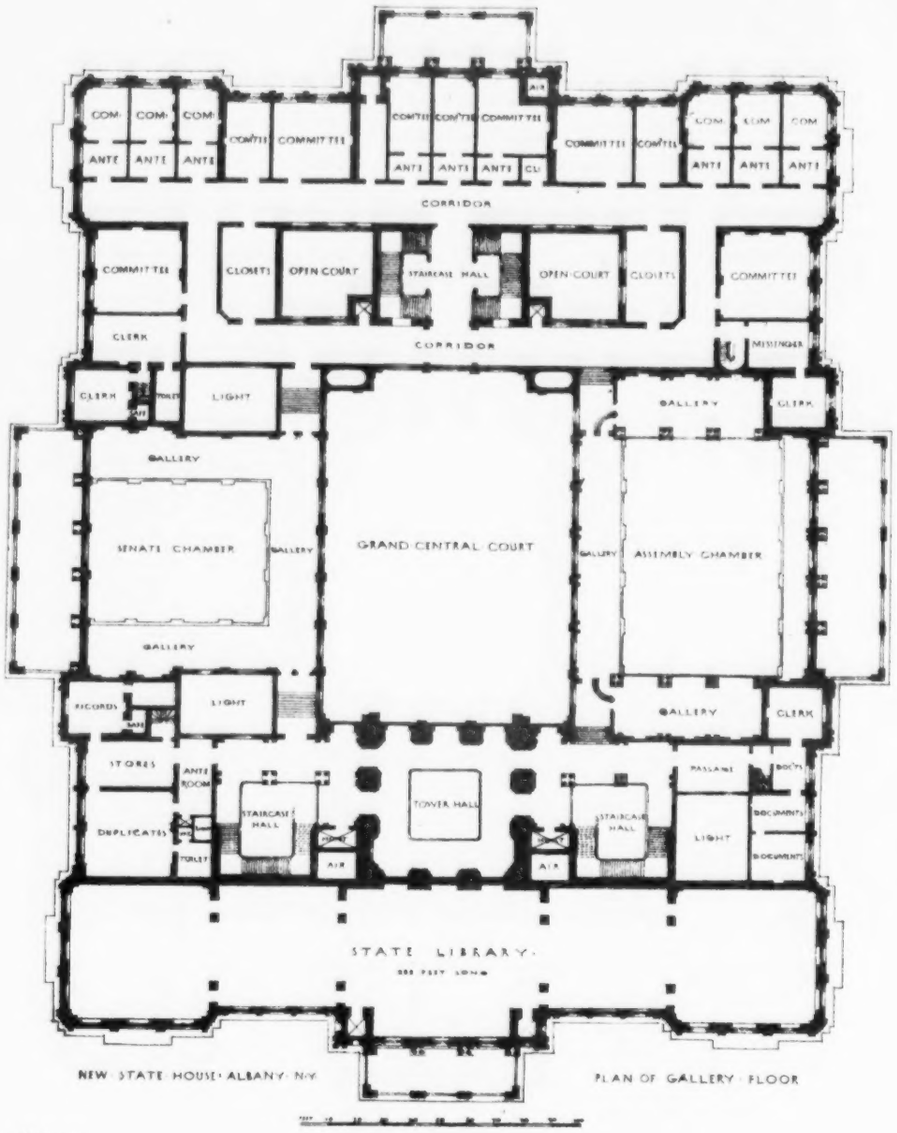
Perspective of Mr. Thos. Ful

Heliotype.

YORK STATE CAPITOL.

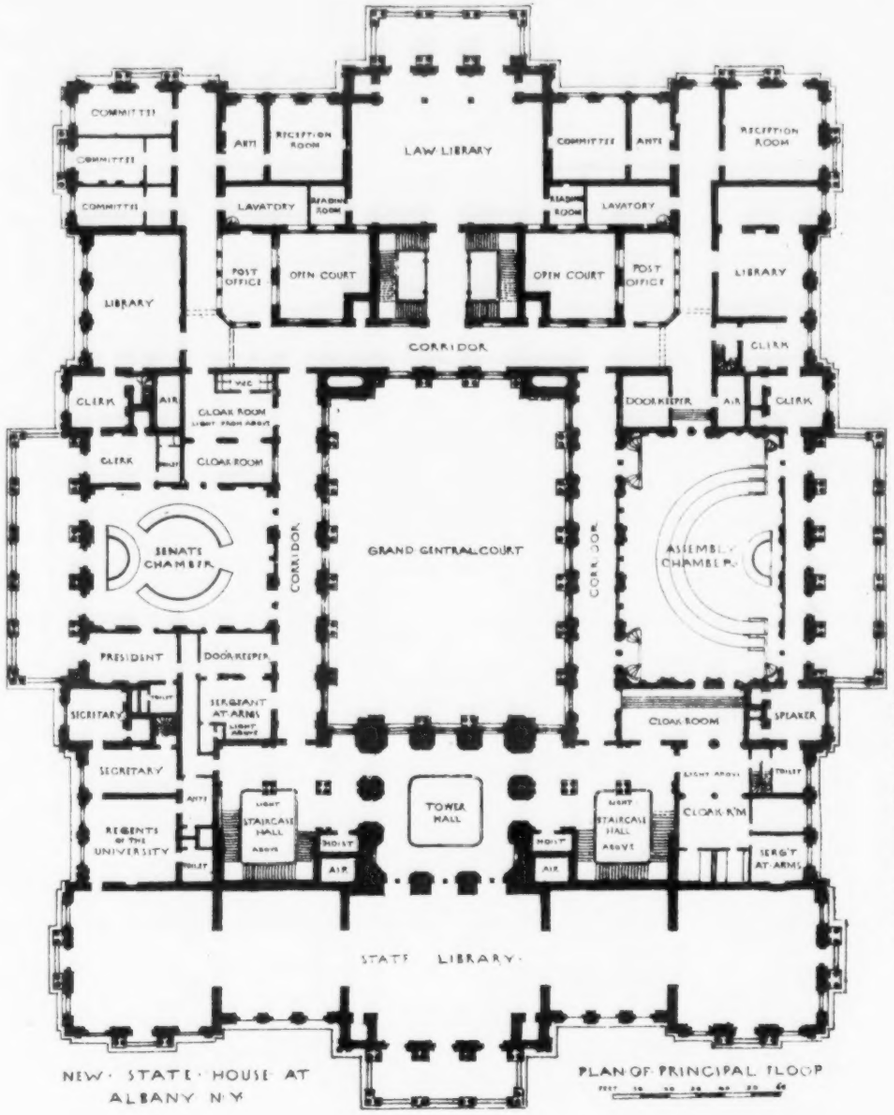
. THOS. FULLER'S ORIGINAL DESIGN.

JAMES R. OSGOOD & CO., BOSTON.



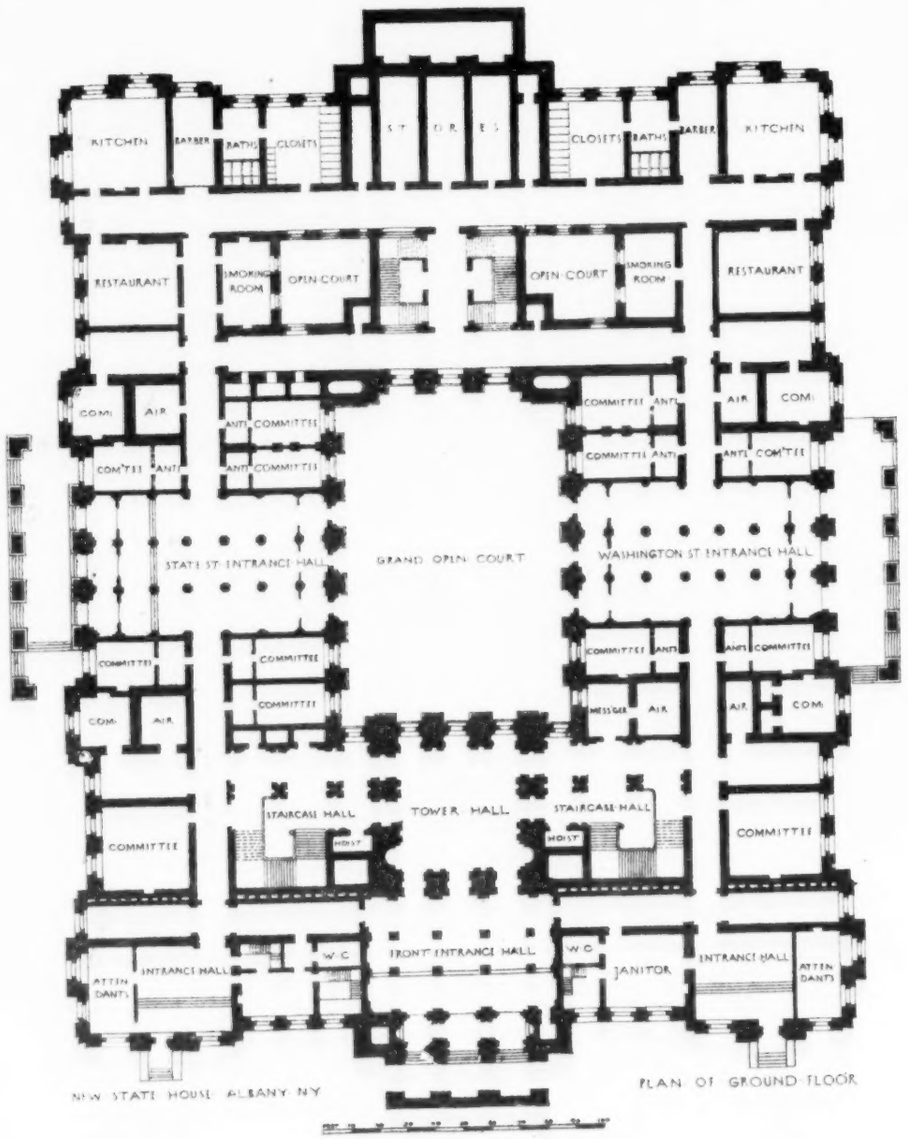
NEW STATE HOUSE ALBANY N.Y.

PLAN OF GALLERY FLOOR



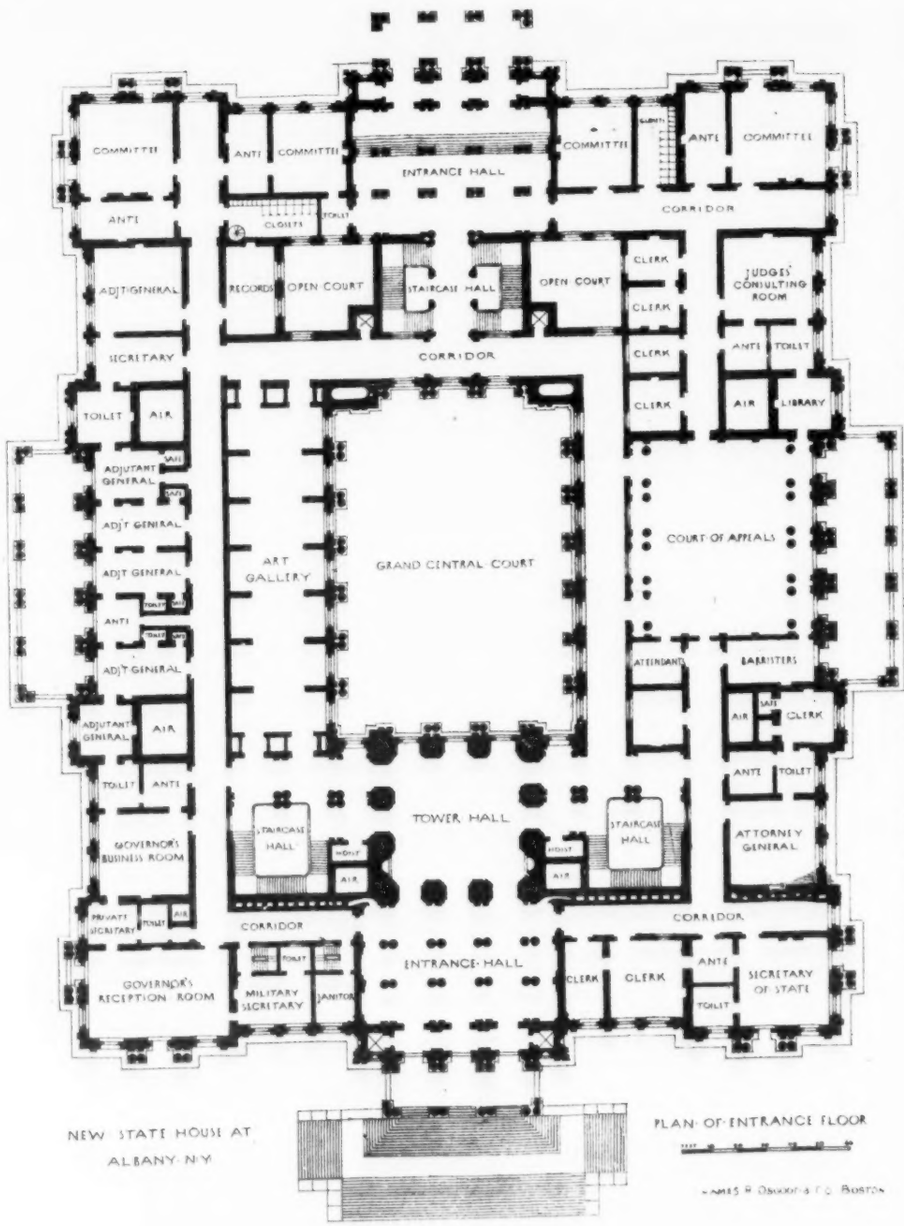
NEW STATE HOUSE AT ALBANY N.Y.

PLAN OF PRINCIPAL FLOOR



NEW STATE HOUSE ALBANY N.Y.

PLAN OF GROUND FLOOR



NEW STATE HOUSE AT ALBANY N.Y.

PLAN OF ENTRANCE FLOOR

JAMES R. OSGOOD & CO. BOSTON

market nowadays; this is due to want of care in felling timber, and in seasoning and drying it. No trials have yet been made of the strength, weight, and durability of Japanese woods. The rapid decay in the material itself, the wholesale destruction of it caused by the numerous conflagrations, the reckless waste of it by the Japanese carpenters, and the increasing demand for it caused by the introduction of modern improvements, is taxing the forests beyond their power of production. Timber has increased in price during the last five years, to two or three times its former price.

Bricks were introduced some years ago, and are rapidly coming into use; but, owing to faults in the process of burning, they are but poor things after all: for while the ordinary English brick absorbs only one-fifteenth of its own weight of water, and will support a crushing weight of eight hundred pounds to the square inch, the ordinary Japanese brick absorbs one-fifth its own weight of water, and will not support more than three hundred pounds to the square inch. Besides the inferiority of the bricks, the mortar used is of an excessively poor quality, because clean, sharp sand can rarely be procured, and the Japanese masons seem to prefer using the oldest lime they can find, which from long keeping has lost all its virtue.

The employment of a method of construction which shall be best suited to withstand earthquake shocks, should always be a primary consideration in building a Japanese house; but the light frame-work and the heavy roof of the ordinary house seem to be peculiarly ill-suited to withstand a shock. An appliance has been devised by a well-known English engineer, for the purpose of counteracting the disturbing force of an earthquake, the principle of which is very simple. It was said by him that "the movement given to the foundations of a building is transmitted with accelerating force to its summit, and that to destroy this the simplest method was to make a break in the continuity of the structure. The designer therefore proposed that buildings should be made in two parts, the lower part to be firmly embedded in the earth, the upper to rest on balls which are made to roll on inverted cups. A sudden movement in the lower part would not then be transmitted to the upper, on account of this break or joint in the structure; and the experiments made show that in point of fact this theory was perfectly correct. He procured this idea from seeing, in Japanese drawings, the uprights of their houses resting on round stones, imagining this to be done in order to give them as slight a hold on the earth as possible. But this does not seem to have entered the minds of the Japanese: they account for the uprights being placed on round stones by saying it is done to keep the wood away from the moisture of the ground, and because round bowlders are more easily and cheaply procured than square stones. The impracticability of this scheme arises from the fact that a house resting on balls is liable to be swung and rocked about in gales of wind to such an extent as to render it unfit to live in. The tables on which the apparatus of some of the Japanese light-houses rest are constructed with this joint; but they have been found to be unsuitable, for the reason, that, when touched or trodden upon, they shake and roll too much." Wooden houses are not well fitted to withstand the other disturbances to which they are much more frequently exposed; and solidly constructed houses, while they are less inflammable, and less liable to damage from bad weather, have also this advantage, that they will always afford their inmates time to escape. The more solidly constructed a building is, the longer it will remain standing, even though solidity is no perfect protection against the shock of an earthquake.

THE ILLUSTRATIONS.

THE NEW YORK STATE CAPITOL. MR. THOMAS FULLER, ARCHITECT.

We give up this issue to the reproduction of the plans and elevation of the New York State Capitol, as originally designed by Mr. Fuller. The plans are printed from the stone, while the perspective, the negative for which was taken from the plaster model, is printed from gelatine.

THE SEWERAGE QUESTION IN HARTFORD.

The recent activity of the discussion of the questions connected with sanitary drainage, in our magazines and newspapers, has not been without its effect in Hartford. The recent report of the Board of Street Commissioners contains the following on the subject: —

"These articles seem to have been to many readers the first announcement of a controversy or discussion of long standing as to the merits of large and small sewers, and have raised an apprehension in some quarters that our Hartford sewers are too large. Now, it is undoubtedly a fact that sewers can be, and often are, too large. But the principal charges against large sewers are, *first*, that they are unnecessarily expensive; and, *second*, that they are more liable to obstruction and stoppage than smaller sewers which are claimed to be self-cleansing. As to the first objection, while it is true that we have laid brick sewers of eighteen and twenty-four inches diameter, in streets where Scotch tile pipes of twelve and sixteen inches diameter would have answered every purpose, our reply is that such brick sewers, here and now, are less expensive than the smaller tile sewers of the best quality; and a brick sewer, from the character of its inner surface, must be larger to carry the same quantity of water than a smooth tile. To which may be added this fact, that nothing is saved in expense by attempting to build a brick sewer, of oval form, of a less diameter than that equivalent to a sixteen or eighteen inch circular sewer. As to the second objection, that large sewers are not self-cleansing, it is for our purpose a sufficient answer to say that none of our large sewers, in our experience or to our knowledge, have ever required the expenditure of a dollar for cleaning any deposits of sewage. The only cases of obstruction have been caused by materials originally left in the sewer by carelessness, or forced in, in making connections; and these would usually have caused no damage had not the sewers been further obstructed by transverse gas or water pipes. In two or three instances where sewers were laid through quicksand, the want of proper foundation, or other imperfect construction, caused a loosening of the joints; and the sewers were filled with sand. One of these was a small tile sewer, and the other a brick sewer two feet in diameter. Of course neither a large nor a small sewer can be self-cleansing if its grade undulates, or if its interior is crossed by pipes.

"It should be remembered, moreover, that in many cases the small-pipe system of sewerage is avowedly intended for house-drainage only, and does not provide for nor permit the discharge into the sewers of the storm-water from the streets. This plan may answer in country villages, where unpaved streets and cultivated lands absorb a large portion of the rainfall, and where the brooks and smaller natural drains still exist. But a paved street, with regular curbs, in a heavy rainstorm forms a canal; and, unless it can be rapidly relieved of this water, very serious inconvenience and damage will follow. In an old city, the natural water-courses have long since disappeared, and the surface-water must be taken off by subterranean channels.

"The sewers in Hartford have been built piecemeal, with the gradual growth of the city, without any systematic plan, generally each independently of any other, and without reference to extensions, branches, and connections. It is obvious, that under such circumstances some would be too large and others too small, and that there would be a want of wise adjustment of one to another in direction, size, and grade. We had occasion, in our last report, to remind the city government of this fact, and to lament it as the inevitable consequence of the manner in which our sewers have been built through a period of over thirty years. No one will deny, that, with our present experience, a more complete system than our present one could be constructed. But no one proposes a complete reconstruction; and we only desire now to show that there is no reason to fear that the city is at present constructing sewers unnecessarily expensive or dangerously large. And we may say also, that there has been far less actual trouble from the faults of our older sewers than might have been expected, doubtless largely owing to the rapid fall most of them possess.

"But while believing that most of our sewers are of suitable capacity, and reasonably well constructed, we would renew most earnestly our cautions to all householders to exercise the greatest vigilance and care in regard to all drains, traps, and plumbing, on their own premises; to shut off contamination from sewer-air by a sufficient trap *outside* each house; and to provide escape for the foul air of local drains, and occasional pressure from sewer-gases, by ventilating-pipes terminating in a constantly warm chimney-flue, or above the roof of the house. Our attention has been called the past year to cases where the only defence against sewer-gas was a small 'bell-trap' in a sink, and this removable, and doubtless often removed."

These directions are in the main good; but they contain some errors, against which architects and engineers cannot be too strongly cautioned. The use of the trap outside of the house may not always be advisable. Where the system of soil-pipe ventilation is generally adopted, if the soil-pipes all communicate with the sewers above the water-line, they afford a capital means for ventilat-

ing the sewer itself, while the frequently changed air of the sewer will be the best source from which (especially during our cold winters) the air needed for circulation in the soil-pipe may be drawn. Ventilating-pipes should never terminate in or near the top of a chimney, but always well away from it, and from any window; and, better, at the highest point of the roof.

The question of outlets is assuming the importance that it is sure to attain in all places of considerable size. The Park River and other streams are now becoming seriously foul; and it is recommended by the commissioners, that competent engineers be selected with a view to building a new outlet sewer to carry all of the house-drainage into the Connecticut River well below the city; which course, or its equivalent, must obviously be adopted before long, in the interest of the preservation of the public health.

CORRESPONDENCE.

Chicago.

A remarkable feature in the architectural history of Chicago has been the general improvement in dwelling-house building since the fire. This has been greatly due to the enactment of city ordinances which have forbidden the erection of frame-houses within the limits of the city, whereas formerly they could be built anywhere except within a small district of the business section. It does not pay to build in brick, except for permanence; and, as it costs but little more to veneer the fronts of houses with cut stone, most of the new and even of the small dwellings have stone fronts. Land is plentiful here, and just now is a drug. There is no limit to the extension of the city. Consequently high dwellings are not common. If a third story is built, it is generally behind a mansard roof. On this account also, all dwellings of any pretension are isolated, with windows on all sides. Those that have been erected in the New-York and Boston style are not a success, except that the Boston swell-front has taken firm root here, though generally employed in two-story houses.

But the greatest impetus given to house-architecture has been in the erection of a few really artistic buildings. The credit for this is due partly to an improvement in taste on the part of the patrons, but for the greater part to the efforts of some of the younger architects, and an influx of talented architects from other quarters.

For the new Presbyterian Church, we are indebted to Mr. Addison from New York. He has also had built the first genuine apartment-house, for Mr. Wheeler, on Ohio Street, in the North Division. This is a fine specimen of domestic Gothic, in brick and sandstone, with admirable carving by James Legge, and judicious use of encaustic tiles. One of the prominent contributions from Chicago to the Centennial Art Gallery will be a portrait of a princess of Roumania, by G. P. A. Healy, about which is a most elaborate and artistic frame, from the design of Mr. Addison, and carved by Legge in his best manner.

Mr. Moody's new tabernacle, now nearly completed, is designed by Mr. Edelmann, one of our native architects, who has recently come into notice. The round angle-tower on this building is a great success. Messrs. Cudell & Blumenthal are known by a number of buildings in the Neo-Grec style, somewhat overwrought, but often good in detail. They have designed a remarkable group of buildings in the south part of the city, about thirty in number, arranged in a quadrangle, with a handsome little park in the centre. The grouping is admirable. I wish I could say as much of the very expensive residence now in course of erection on the North Side, by the same architects, for Perry H. Smith. For, though fine in many of its details, it is most unfortunate in its grouping, and is marred by a superabundance of galvanized-iron "decorations" in the upper part. They have also erected a very costly house on North Dearborn Street for Mr. Peabody, formerly of Boston, in the Gothic style, with a stable and billiard-hall adjoining. This stable is the finest thing they have done, and is far superior to the house in design and execution.

Of the professed Gothic men, Burnham & Root, both pupils of Mr. Wight, have just finished the beautiful house of John B. Sherman, on the corner of Twenty-First Street and Prairie Avenue. Mr. Root has made an established reputation here, after a residence of only four years, two of which have been occupied in practice. It is a good sign, that this house has been generally recognized as a work of art. It is to be hoped that your journal will soon give an illustration of it. Description would be worthless. The interior is in entire accord with the exterior, and the furnishing is carried out in keeping with the architecture. The carving of the exterior is all by Legge, and of the interior by Isaac E. Scott, a self-trained carver, who may be claimed as a native product of Chicago. There is nothing to compare with this dwelling, in the South Division of the city.

The new residence now in course of erection in the North Division for E. W. Blatchford, designed by Mr. Wight of the firm of Drake and Wight, is attracting considerable attention, not only on account of its size, but of the novelty of its design and arrangement. It is less distinctively Gothic than the Sherman residence, and is treated with great freedom from the restraint of style. It is faced on all sides with Baltimore brick; and this material has been used wherever practicable, to the exclusion of stone, even for the cornice. The roof is of slate, and the chimneys of pressed brick are very massive. The front porch is of Columbia sandstone, with columns of English granite. The capitals are yet to be carved. The basement is faced with red sandstone, rock face; and all the other stone-work is of light-gray Columbia sandstone. This last material, from the quarries near Amherst in Ohio, is now the best sandstone in use here, and is also employed in the Sherman residence. By most of the architects it is considered superior to the Clough stone so much used in New York. Our white limestone from Athens, Ill., is, however, the principal material used, and probably always will be. Stone and enamelled brick will be used for some of the mantlepieces in the Blatchford house; and the inside finish will be throughout in harmony with the constructive character of the exterior, while the furnishings will all be designed for the places in which they are to go. It is an evidence of the progress in refinement of some of our cultivated people, to know that in both of the last-mentioned dwellings there will be no nailed-down carpets, but that polished marquetry, plain hard wood, or tiling will be used throughout. The Blatchford residence is to be appropriately inlaid with decorated tiles, both outside and inside; the tiles in all cases being used in the brick-work, to which family they naturally belong. Having given you an idea of what some of our "homes" are to be, I will, in my next, tell you something about our new club house, the future home of bachelordom.

In a recent letter of Mr. Dwight of Springfield to the Architect, he takes exception to a statement of Mr. Hutton, in his paper read before the Institute, to the effect that corrugated iron for floors, roofs, and partitions would be useless against such a fire as occurred here on Oct. 9, 1871; and ventures to say that corrugated iron *did* resist the great fire in Chicago. I think most people would understand Mr. Hutton as referring to corrugated iron used *per se*, without further adjuncts or combinations with other materials. Fillings, between iron beams, of straight sheet iron with large corrugations at least six inches wide, were used some years ago in New York and elsewhere. They were first used, I think, in the Insurance Buildings, corner of Wall and William Streets, New York, designed by Frederic Diaper; and were also used in the Union Bank and Fulton Bank in the same city. They were flushed with concrete, upon which the floors rested. A fire of no great severity in the last-mentioned building completely destroyed them. The facts in relation to corrugated iron *arches* between beams filled in with concrete to the tops of beams are as follows, as many witnesses can testify: These were used in the new wings of the Court House, and in the Tribune Buildings, as well as in several others which were totally destroyed. The two buildings mentioned were partially destroyed; and it is true, as Mr. Dwight says, that the brick walls of the Tribune Building gave way first. But in the Court House, though all the walls were left standing, only half of the floors in one wing remained in place. In the other wing they were much damaged, though the building was repaired for temporary use. Their fireproof qualities were due to the concrete arches formed on the corrugated iron *centring*, which generally stood fire better than the brick arches. But it is also a fact, that the brick arches and beams remained in place in the lobby of the Custom House, where they were supported by brick walls, and were exposed to as severe heat as in the rest of the building. But the fact is, that the interior of the Custom House was destroyed because the cast-iron columns gave way first, and precipitated the whole interior structure, walls, beams, and floors, into the cellar, where all the combustible materials burned like a bonfire. In fact, the upper parts of the inside walls were scarcely affected at all by the fire; and marble mantles remained in their places unharmed.

Cincinnati.

To the Editor of the American Architect and Building News.

Dear Sir, — I see that you keep advised on matters of interest in this locality; among other things, I find in your last publication a notice of the new Music Hall. Nothing definite has been deter-

mined yet in regard to it; the buildings at present occupying the site cannot be removed until after the Republican Convention next June. Mr. David Sinton's gift to the city is now taking form. It will be erected on the open square east of the Probasco Fountain, immediately in front of the Government Building. The bronze group to be erected will probably have Cincinnatus for the central figure: so you see we will have a sort of Roman forum.

Our city has been pretty well represented, so far, in your journal by designs from several of our architects. I hope to soon send you a sketch of a new building now being erected on the summit of one of the hills surrounding the city, having a very picturesque site, and being a place of public resort connected with a new inclined-plane railway. The structure will be sixty feet wide, and one hundred and seventy-five feet long, with wide verandas and towers; it is to be called the Bellevue House. In addition to the numerous buildings erected in the Zoölogical Gardens last year, a large stone restaurant is now being built to add to the attractions of that resort. The new Queen City Club-House, on the corner of Elm and Seventh Streets, designed by Messrs. Hannaford and Proctor, is now being finished. It is a very handsome building of Baltimore pressed brick, with freestone trimmings, and is profusely decorated with ornamental tiles; a steep slate roof surmounts the building; the interior is to be finished very handsomely. The Johnston Building just completed, one hundred and ninety feet front, by fifty-four on Walnut Street, is an office-building six stories high.

HISTORY OF THE MASSACHUSETTS STATE HOUSE.

Boston.

Editor of The American Architect and Building News.

Sir, — I am frequently asked for information about the history of the Massachusetts State House, which I cannot give. Presuming there may be many others who wish for more knowledge than they have of the origin and history of this interesting building, I would like to make a request through your columns, that some one who can will give us this bit of architectural history. And, while on this subject, why not have a series of articles on our prominent old buildings? Some account of the Old State House, for instance, would be very desirable. Very respectfully,

S. C. E.

REPORT OF MEETING.

RHODE ISLAND CHAPTER.

Providence, April 6, 1876.

The regular monthly meeting of this Chapter was held last evening.

The Committee on the memorial for the adoption of the metric system reported, that in consequence of the opposition of the Boards of Trade, and of prominent manufacturers of machinery, it would be inexpedient to press the matter at present. The Committee on Building Laws reported, that they had held several conferences with the Committee on Ordinances of the City Government, and that committee had promised to recommend the appointment of an Inspector of Buildings, but were not inclined to undertake the formation of a commission for the preparation of a law at the present time. The Common Council have instructed the mayor to obtain authority from the legislature for the enactment of a building-law by the council. After some discussion, the Chapter decided to go on and form a suitable law, to be ready for enactment at the first favorable opportunity. Communications were read from the Secretary of the Institute, in reference to the building-law, accompanied by a full set of the forms in use by the Department of Buildings in New York.

A communication was read from the Secretary of the New York Chapter, accompanied by the reports of the Advisory Board of Architects, on the completion of the New York State Capitol, with Mr. Fuller's reply thereto, and the proceedings and remonstrance of the New York Chapter in regard to the same. Whereupon, after discussion and severe criticism of the design recommended by the Advisory Board, the following resolutions were unanimously passed: —

Resolved, Whereas the evil influence of mongrel architecture is not confined to the locality where it exists, but is felt throughout the nation, in the vitiation of the public taste; and buildings expressing the majesty of the State should especially be distinguished by purity of style and dignified consistency of detail: —

Therefore we, the Rhode Island Chapter of the American Institute of Architects, having carefully examined the design for the completion of the façades of the Capitol building at Albany, as proposed by the Advisory Board, and published in the American Architect, do heartily approve of the remonstrance of the New York Chapter in reference thereto, and hope that Chapter may succeed in its efforts to prevent the perpetration of such an architectural absurdity as the addition of two stories and dome of Romanesque design to a building so far completed in the style of the Renaissance.

The Chapter then listened with much interest to a description by Mr. C. E. Carpenter, of his visit to Pompeii, with notes of personal observation, illustrated by photographs and sketches; and, after a vote of thanks to him for the pleasure conferred, adjourned.

Charles P. Hartshorn, *Secretary*.

LETTER FROM M. VIOLLET-LE-DUC.

The subjoined extract is taken from a letter addressed by M. Viollet-le-Duc to an architect in the State of New York: —

68 Rue Condorcet, Paris, Dec. 2, 1875.

Dear Sir and Colleague, — I am happy to have the opportunity you offer me of expressing the sympathy which every true Frenchman feels for the citizens of the United States, and particularly my own good-will towards my colleagues beyond the Atlantic.

I know how well the people of the American Continent keep themselves informed upon all that is useful and practical, which our older Europe produces; consequently I can but be greatly flattered by the reception which my writings have met with in America. This reception proves to me, that, in studying every thing in the past which is of a nature to place our art upon its true course, I have not labored in vain. The fact is, that the future can only be prepared by the exact and critical study of the past. If everybody knew history as it should be known, that is to say, by the aid of authentic documents, the reign of human fraternity would be in full vigor. It is always through ignorance that we fail to understand one another upon all questions, and commit again and again the same mistakes, the same faults.

Accept, dear sir and colleague, the assurance of my highest regard. E. Viollet-le-Duc.

THE BUILDING OF THE NATIONAL SAFE DEPOSIT COMPANY.

At a late meeting of the Institute of British Architects, Mr. Whichcord, vice-president, read a description of the new building of the National Safe Deposit Company in London. He said that the problem which the company undertook to solve was to provide a receptacle in the heart of the city of London which should be proof against fire, burglary, and riot, and in which property small in compass, but of great value, might be safely deposited; and he ventured to assert that complete security had been realized. It was found necessary to design a perfectly undrillable armor-plating in the form of laminated iron plates, as well as to invent a simple contrivance for the numerous doors into which the "*sanctum sanctorum*" of the larger conception had necessarily to be divided. The first difficulty to be encountered was that of obtaining a suitable site; for, while it was essential that it should be in the centre of the city, it was also a *sine quâ non* that it should be detached from other buildings on all sides, so as to prevent the possibility of access from adjoining property. The excavations for the vaults in which the safe proper is constructed involved the necessity of going to the very unusual depth of 46 feet below the street; and owing to the nature of the soil, and the great lateral pressure of surrounding earth, this had to be executed with very great caution. The great depth at which the foundations had to be laid out, and the treacherous nature of the soil, dictated the necessity of building the walls in trenches, and at short lengths with strutting (of which illustrations were shown). The external walls were built in very hard brickwork, with cement, and a backing of hydraulic concrete of an average thickness of six feet. After the enclosing walls had been thus laboriously raised to the level of the ground, the earth within the enclosure was taken out by means of steam-hoists, and a cross-wall was built to prevent the possibility of bulging from the great lateral pressure. Having thus secured a chamber 80 feet long, 46 feet wide, and 45 feet high, within which to construct the actual safe, the latter was made a distinct and isolated structure, with a space between, which would enable the company's officers to patrol it externally on all sides. The walls of the great safe are three feet in thickness, built of extremely hard blue bricks, and an outer skin of fire-bricks. The brickwork, being intended mainly for protection against fire, was not considered sufficient defence against burglary or riot; a distinct lining of undrillable armor was therefore provided within the walls. A

very important item of consideration was the doors, of which there are thirty-two, one to each of the compartments into which the structure is divided. On the principle that the strength of a fortress is only equal to that of it weakest part, it was essential that the doors should be as strong as the walls, and of a different kind from those used in ordinary bank-safes. They were made twelve inches thick, in solid metal of various qualities, so as to resist either drilling or fracture; they weigh four tons each, and are absolutely imperforate. They are opened, closed, and locked by hydraulic power, the precise application of which, for obvious reasons, was not described. The vault, as well as the several floors of offices below the ground level, are of necessity lighted and ventilated by artificial means, which Mr. Whichcord explained, together with the nature of the fire-proof floors, the reasons which led him to choose sandstone for the frontage, the great tank on the roof, and other practical details.

NOTES AND CLIPPINGS.

The Pennsylvania State House. — The contract has been let for strengthening the steeple on the State House, to sustain the weight of the new clock and bell which are to be put into it this summer; and work has already been commenced. Heavy iron rods will be put through the brick-work at the base of the wooden spire, to prevent spreading; and heavier timbers will be substituted for the present supports of the bell and clock floors.

Traps. — In speaking of house-drainage, James R. Willet says in the Engineering News, "Be sure that the branch pipe from a trap goes horizontally, or very nearly so, to the main waste-pipe; for this reason, it is best not to use Y-joints in vertical pipes, as they will probably cause the longer leg of the siphon to be on the side of the trap towards the waste-pipe, which will cause the water to be siphoned out of the trap."

A Pre-historic Fort. — "At the latest meeting of the Maryland Academy of Sciences," says The Baltimore American, "Dr. Dalrymple read a paper prepared by a corresponding member of the academy, Mr. Thomas J. Brown of Waynesville, O., upon the mounds of the Miami Valley, and describing particularly Fort Ancient, Warren County, of that State. This mound by its location is singularly adapted for defence on the top by a high wall, almost detached by deep ravines from the plateau of which it forms a part. The walls are very irregular in their direction. A country road runs through the enclosure formed by the outside wall, entering the eastern gateway, and leaving by the western. Under the bed of this road is a hard gravelled road made by the builders of the mound, or fort as it should more properly be called. The ramparts at one point measured four rods across the base, and from sixteen to twenty feet high. The walls were built of earth taken from a deep ditch upon the outside, which is yet visible. The prevailing rock of that region is blue limestone. There are about fifty openings in the walls that were probably filled with palisades. There are several large excavations inside the walls, averaging a hundred and fifty yards in circuit, which contain water at all seasons of the year: they were thought to be reservoirs for supplying the garrison. By digging into the walls, stones may be found sometimes made into a sort of rude wall; and under the stones human remains have been discovered. Pieces of pottery are also found upon the surface; and at a point outside the walls are evidences of a manufactory of flint arrow-heads. The growth of trees at this place indicates its great age. In looking at it one concludes that it was built for military defence. The entire length of the walls is nearly five miles. A great number of smaller mounds scattered around the country suggest the probability that they were used as signal-stations by the mound-builders. Remains of roads from the main fort to the small mounds outside are to be seen.

Department of Buildings. — The expenses of this department in New York in 1875 were $95,000; and its appropriation for 1876 is $80,000. The committee received no complaints concerning the department; and their examination of its head revealed no special defects of administration.

The bridge across the East River, at Blackwell's Island, it is said, will be begun in the spring, and completed in about two years from that time. From its New York extremity at Third Avenue and Seventy-seventh Street, it will be carried three thousand feet to the East River. Its longest span will be from this point to the island, a distance of seven hundred feet. From the island, it will cross the river to the Long Island side, at Astoria Heights, with a span of six hundred feet. Its total length will be a mile and three-quarters. It will be of iron, trussed; and will carry a railway track as well as a road for ordinary traffic. The estimated cost is two million dollars.

Ebony Wood. — In the largest trees of the true ebony, the wood is of a light color; but after a while it begins to turn black, and takes on the very dark color which is peculiar to it, and to which it has given a name. The genuine article blackens in the centre, and from the centre outward, becoming finally of a deep jet black. Though characterized by a considerable degree of hardness, it is somewhat brittle, though not sufficiently so as to deprive it of great and varied usefulness. One of the most remarkable large structures made from ebony in a land where it is plentiful is, perhaps, the ebony and satinwood bridge in Ceylon, built at Paradina, about five miles from Kandy, and forming part of the coach road from Kandy to Colombo. It consists of a single arch resting on stone abutments. The timbers are all light and simple in form; and the structure certainly affords proof of the abundance and cheapness of these two kinds of wood in that region of the world.

Nineteen thousand dockyard laborers at the Mersey docks recently presented a petition against the introduction of steam-engines for loading and unloading vessels. The authorities informed them that their petition could not be considered.

Fire at Tarsus. — On the 26th of January, Tarsus, the city made famous by its connection with the history of the Apostle Paul, was visited by a fire which caused a loss of seven hundred and fifty thousand dollars. The bazaar was reduced to ruins. The fire broke out in a small shop which was closed during the absence of the proprietor. It is supposed that rats caused the fire by gnawing matches, of which there were a quantity on the premises. The city, which contains about twenty thousand inhabitants, is without any supply of water at this season of the year; and this fact, in connection with the prevalence of a strong breeze, resulted in a rapid spread of the flames, to retard which nothing seems to have been done until the arrival of the governor with a police force and a small fire-engine. He soon had two loads of water brought, and set the engine to work, but suddenly felt it his duty to go to the protection of a powder-magazine in a distant part of the town. Then the fire had its own way, the thieves made a harvest, and the entire city was probably saved from fire and pillage only by a change in the direction of the wind.

Wood Carving. — At the last distribution of prizes at the Sheffield School of Art, a prize was offered with the view of inducing some of the students to direct their attention to carving in wood. There are at present eight competitors for the prize. The works that are ready for exhibition will be shown at the annual meeting some time this month.

Lightning-rods. — M. Saint-Edmé, by coating lightning-rods with nickel, has produced conductors which are free from the defects caused by oxidation, or by the defective welding of the iron rods with their platinum or copper-gilt points.

The Chicago Court-House. — It is now proposed that the the county build the court-house, and lease to the city, at an annual rent of six per cent on the whole cost of the building, the portion of the building that is to be used as a city hall. We suppose this to mean that the whole building is to be according to the design of the county architect.

An Old Church. — It is said that the oldest church edifice in America, excepting a Romish church in St. Augustine, is St. Luke's, Isle of Wight County, Va., about five miles from Smithfield. It was built as early as 1635; and, after being roofless for a century, the present roof was put on somewhere between 1830 and 1835. It is now used for worship, and the grounds around it are used for burial. Its thick walls and high tower are still strong.

The Ancient Churches of Cimitile. — Another interesting work has just been resolved on, — the repair and partial restoration of two out of five of the ancient churches of Cimitile, supposed to be the oldest place of Christian worship in Europe, dating from the early part of the fourth century, the earliest period at which Christian worship ventured to emerge from the Catacombs to announce itself as a protected and established cult. Cimitile is a small village, about a mile from Nola, the Campanian city where Augustus died, — in the same house and in the same room, says Tacitus, where his father Octavius had died before him. Of these churches of Cimitile, originally five in number, three are hopelessly ruinous; but two, which contain very interesting mural paintings and Christian sculptures of the fourth century, are not beyond reach of judicious repair; a work which is now about to be undertaken at the expense of the government, under the direction of the Antiquarian Commission of the Province of Terra di Lavoro.

Paris. — The *Journal Officiel* promulgates the law immediately raising the state of siege.